[STARTUP PROCEDURE FOR SENSORLESS BRUSHLESS DC MOTOR]

Abstract

A method for starting-up a motor having multiple stator windings and a rotor contains first providing current to two of the windings to excite a predefined phase and allowing one of the windings floating. Then, the back electromotive force (BEMF) induced in the floating winding is monitored. If a zero crossing of BEMF occurs in the floating winding within the maximum startup time, then it commutates to the next phase, which is adjacent to the first initial phase in the predetermined sequence of excitation phases. If no zero crossing of BEMF occurs in the floating winding within the maximum startup time, then it commutates to the next phase, which is functionally shifted by two phase-intervals from the pre-defined phase.